

AMENDMENTS TO THE CLAIMS

1-5. (Withdrawn)

6. (Re-presented - formerly dependent claim 11) A cellular wireless internet access system comprising:

a plurality of portable subscriber terminals each having a directly attached antenna for communicating in a predetermined frequency band with a predetermined nearby cellular base station;

a plurality of cellular base stations each transmitting and receiving in said predetermined frequency band at a single frequency with a predetermined said plurality of said subscriber terminals; and

means for operating said base station on a small frequency allocation obtainable anywhere within the designated frequency band using a single frequency channel of varying bandwidth between 6 and 24 MHz using different spread spectrum transmission chip rates; and

means for operating said base station in a time-division-duplex mode to enable said transmitting and receiving at said single frequency channel thus avoiding the need for separate channels spaced apart for transmit and receive and including means for allocating the ratio of time for transmitting and receiving on a predetermined basis said time division as a function of expected traffic demand;

means for providing high net data rates of 1.5 - 3.0 Mbps using a plurality of data bearer subchannels on a said single frequency channel, orthogonal downlink spreading codes for CDMA transmission, and successive interference cancellation or simultaneous uplink spreading codes.

7. (Original) A system as in claim 6 where each band is divided in the time domain into frames and each frame has a predetermined number of time slots allocated to control, uplink, and downlink communications between said cellular base stations and subscriber terminals.

8. (Original) A system as in claim 7 where some of said frames are dedicated to backhaul communication between base stations on a peer-to-peer basis.

9. (Original) A system as in claim 7 where the data transmission rate is increased during time domain frames used for backhaul communication by switching to directional antennas during these timeslots thus providing an improved radio channel quality to support such increased data rate.

10. (Currently Amended) A system as in claim 6 where said means for using different transmission chip rates provides high net data rates of 1.5 - 3.0 Mbps and high subscriber capacity on said small frequency allocation.

11. (Withdrawn)

12. (Currently Amended) In a method of operating a cellular wireless internet access system with both high data rates and maximum coverage where a plurality of base stations are each related to a cell and are located at a low to ground level, along with a plurality of subscriber terminals in each cell to provide a relatively low level of interference to adjacent systems partially due to attenuation by foliage, building clutter, and terrain losses, but where such factors causing attenuation also causes a time delay spread of the signal due to multipath signals, the method comprising the steps of:

transmitting simultaneously on the same radio frequency channel a combined stream of data on a plurality of data bearer sub-channels, each subchannel using a different spreading code and having a data rate which is a fraction of the combined stream of data, whereby said reduced data rates increase symbol periods and thereby reduce corruption of data due to said delay spread and where such subchannels are combined and de-combined using multiplexing and inverse multiplexing techniques respectively.

13 - 21 (Withdrawn).